

File sharing in Windows XP

If you want to share files over your network, you need to make sure things are configured correctly. Karl Wright guides you through the process and points out pitfalls to avoid on the way

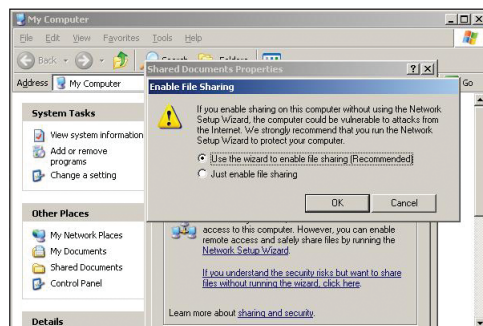
In Windows XP, there's a very simple way to make a folder accessible to other computers. Right-click the folder you want to share. In the context menu that appears, click the option Sharing and Security. The first time you share a folder, Windows will ask if you want to do the job manually or use its wizard to help.

There's little difference between the two methods, other than that the wizard switches on Windows's Internet Connection Firewall. You can do this easily yourself by opening the entry for the Windows Firewall in Control Panel and selecting On (recommended). Make sure you don't select the box called Don't Allow Exceptions, then go to the second tab, which is marked Exceptions. Check that File and Printer sharing is ticked. If you don't do this, the Firewall will block any attempt to connect over the network to the folder you've just shared. The folder that you've shared, as well as all its subfolders, will now be accessible to every PC on your network. However, if you use Simple File Sharing, you'll find that there's no way to password-protect a folder, and you can't give some users read-only access while letting others read and change the folder's contents. However, it is possible to make one of the subfolders in your shared folder private. Right-click the subfolder and go to Sharing and Security. Then select Make this folder private. You can also hide an entire folder; we'll show you how to do this shortly.

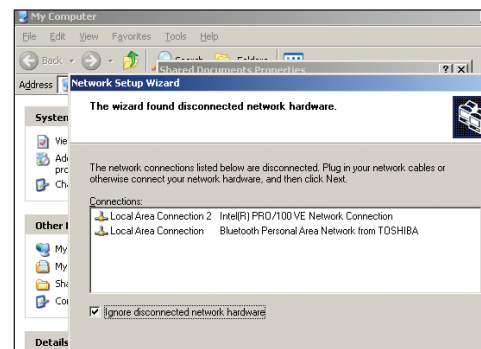
MAKING A SECRET SHARE

Simple File Sharing makes it possible to create a secret share. Usually, when you share a folder it will appear in the Network Places of every computer in the same workgroup. If you do not want everyone in that workgroup to be able to see and use the shared folder, put a dollar sign at the end of its Share name. This hides it, and only people who know the name of the folder will be able to connect to it.

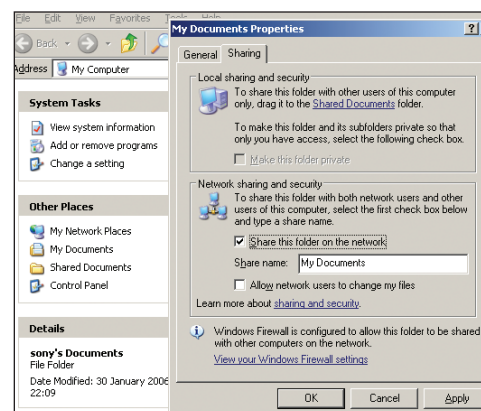
To connect to a secret share, first find out what the computer is called by right-clicking My Computer and looking at the tab called Name. Then on the remote PC open My Computer and go to Tools and Map



▲ The first time you try to share a folder, Windows XP asks if you want to run its file-sharing wizard, which activates Windows Firewall to keep you safe from hackers



▲ Make sure you tick the box telling the wizard to ignore disconnected network hardware. No PC uses all its network adaptors and if you don't tell Windows to ignore this, you won't be able to complete the wizard



▲ If your PC is already protected by a firewall, you can choose to ignore the wizard and share a folder manually. This is easy to do, and within a few seconds everyone on your network will see the new share

INTRODUCTION

Sharing files between PCs on your network should be simple – and it is, if you know the right way to go about it. Do things the wrong way, however, and you're in for a world of pain. File sharing is one of those Windows functions that is all too easy to get nearly working. Everything will look as if it's configured perfectly, but when you try to copy a file from one computer to another, you'll find that you have read-only access, that some of the folders you thought you'd shared are inaccessible or, worse yet, that everyone on your network can now access folders you thought you had made private.

In this article, we show you how to get maximum control over your network shares with the minimum of fuss. You will also learn how to diagnose and fix some of the most common and frustrating file-sharing problems.

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network drive. Type the network path of the share you want to connect to in the box labelled Folder. For instance, our secret share was on a notebook called Sonynotebook, and the folder was called SecretShare\$, so the network path is \\Sonynotebook\\SecretShare\$. Click Finish and the secret folder will appear as a network drive in My Computer.

Hiding a folder in this manner is a good way to stop your kids from stumbling across the folder containing the Christmas list. However, it's a very basic form of security. Either the user cannot see the share or they can, in which case they can change its contents in any way they please. If you're using Windows XP Professional Edition, you can use a much more sophisticated file-sharing tool called an Access Control List (ACL), which we'll look at shortly.

You can use ACLs productively only if each user on your network has their own user account, and it's set up on each PC they need to use. So first we have to consider how to create a user account.

CREATING WINDOWS XP USER ACCOUNTS

Open the User Accounts entry in the Control Panel and click Create a new account. Choose a name for your account and then click on to the next screen to specify whether you want to create an administrator or a limited account. An administrator account will be able to change Windows settings, install programs and so on, while a limited account won't.

Once that's done, click Create Account. Click on the entry for the account you've just created, click Create a password and then choose a password for your new account. Password-protecting your accounts will make sharing files easier.

SETTING UP AN ACCESS CONTROL LIST

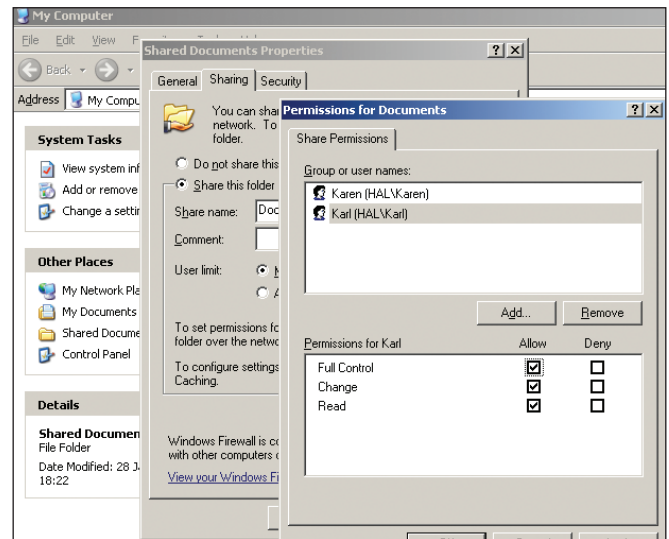
To set up an ACL, you must turn off simple file sharing. Open My Computer, go to Tools and then Folder Options. Click on the tab called View and scroll to the bottom of the list you see there. Untick the Use simple file-sharing option and close the window.

Now right-click on the folder you want to share and choose the option Sharing and Security. Select the radio button called Share this folder. Unless there are more than 10 people on your network, don't bother specifying how many users can connect to the folder at once because XP allows 10 by default. Next, click on the button marked Permissions. By default everyone on the network will have access to the folder. Unless you really do want this, you need to change it. Select the entry Everyone and remove it. You must now specify who should be able to use the folder and how.

Click on Add, which opens a new dialog box, and select Users or Groups. In the new dialog box, click on the button in the bottom left-hand corner marked Advanced. Click Find Now in the box that opens. This will display a long list of all the users and groups on your PC. Most of these are built into Windows and have nothing to do with the people who use the computer. Scroll through the list and you'll find the names of all the PC's user accounts.

Select the accounts to which you want to grant access to your shared folder. You can select more than one account at once by holding down the Ctrl key as you click the account names. Once the correct accounts are selected, click OK

► Assigning share permissions in Windows XP is easy and gives you much greater control over who can access and use files in a shared folder



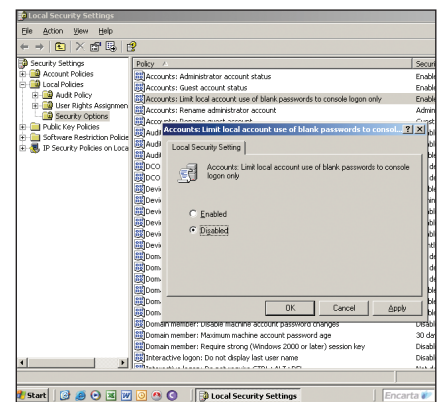
on each of the dialog boxes you've opened. Your shared folder will now be accessible to these accounts and not to anyone else.

ASSIGNING PERMISSIONS

You've set up your shared folder and decided who can and can't use it. That's already more than you could do using Simple File Sharing. But ACLs offer you even more control. You can decide whether users should have full access to the folder, or read-only access. As the name implies, full control allows the user to alter, move, rename and otherwise change documents and folders in the shared folder. With read-only access the user can do none of these things. They are limited to opening files and viewing them.

They can, however, copy or save files from the shared folder to another location. There is no way to change this, and the read-only folder permission is designed to make sure that unauthorised people don't delete or tamper with your documents, not to stop people from stealing. If you don't trust someone, don't give them access to the folder in the first place. There's a third permission that lies between Read and Full Control called Change. For our purposes, however, there's no difference between Change and Full Control.

To assign folder permissions, right-click on the shared folder again and select Sharing and Security. On the Sharing tab, click the Permissions button. Select the name of the



▲ Windows XP can be configured to allow users whose accounts aren't password-protected to access a shared folder, but it's not recommended

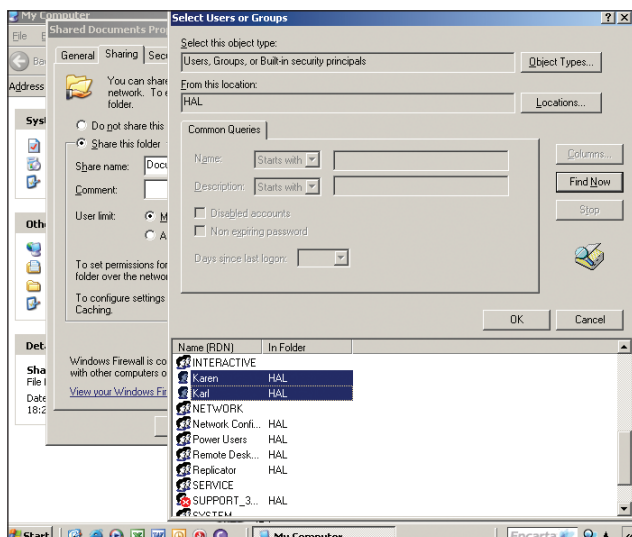
account to which you want to assign permissions and click the appropriate boxes in the lower pane.

NETWORK SHARES AND ACCESS CONTROL LISTS

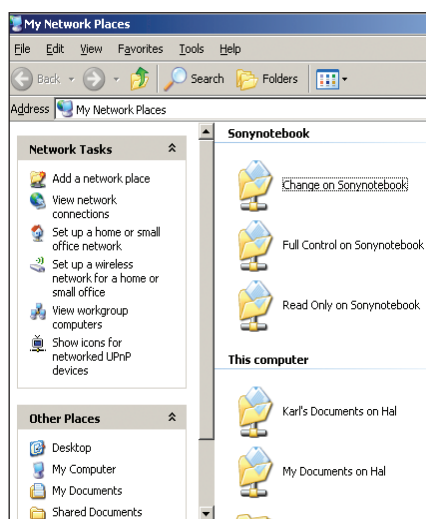
By this point you've created shared folders on your PC, determined which users can access them and how. However, this applies to local users only. Anyone who uses another PC on your network will be able to see your shared folders but, if they try to open them, they'll get an error message telling them they lack the necessary permissions.

This is easy to fix. First, make sure you have the same user accounts on all the networked PCs that you want to share files between. This means that if you have a user account on one PC called Mike, and you want Mike to be able to access a shared folder on another PC, then the PC with the shared folder must also have a user account called Mike. It will be easier to set up shared folders if all the user accounts on your network's PCs are password-protected.

By default, Windows XP doesn't allow you to connect to a shared folder from an account that isn't password-protected. To change this, you open Administrative Tools in the Control Panel. Open Local Security Policy, expand Local Policies and then Security Options. In the right-hand pane, double-click on the 'Limit local account use of blank passwords to console login only' option to disable it. However, we recommend that you don't do this, instead protecting all your accounts with passwords.



◀ Select more than one user at once by holding down the Ctrl key as you click the user names



▲ Any shared folders will show up under My Network Places

Once a PC has accounts for all the users who want to access a shared folder, restart that PC. You could just log off all the relevant accounts and log back on to them one by one, but it's quicker to restart if you have more than one or two accounts.

Leave the client PCs and return to the computer with the shared folder on it. Right-click the shared folder and select Sharing and Security. Make sure all the relevant user accounts have the right level of access to the share. Leave the PC with the shared folder on it and return to your client (the PC you want to be able to connect to the share over the network).

Open My Network Places and you should see a list of all the shared folders on your network, including those you've just created. If you don't see your shared folders, right-click on My Computer, select Properties and go to Computer Name. Make sure your client PC is on the same workgroup as the PC with the shared folder. If it isn't, click the button marked Change, rename the workgroup and reboot your PC.

Once you can see your shared folders in My Network Places on your client PC, double-click on the folders to open them. If they don't open, go back to the host PC (the one with the shared folders) and make sure that all permissions on those folders are set correctly. The accounts on the host PC that correspond to those on the client PC must have at least Read access to the shared folders if the client PC is to connect to the share.

There is one other thing that will stop you being able to connect to a shared folder: incorrectly configured NTFS permissions. See the NTFS permissions box below for details of how these permissions work.

SHARE AND SHARE ALIKE

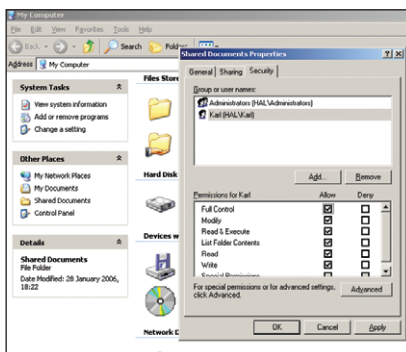
Home users will find that Windows XP Home Edition's simple sharing functions offer them enough flexibility to work effectively. More demanding business users will be better off using access control lists to achieve more finely controlled results.

Anyone who has more than a handful of PCs on their network would be well advised to go the whole hog and buy a server operating system such as Windows Server 2003. This not only gives greater control over their network shares, it also makes network administration easier and less cumbersome; see the File sharing box opposite. 

NTFS permissions

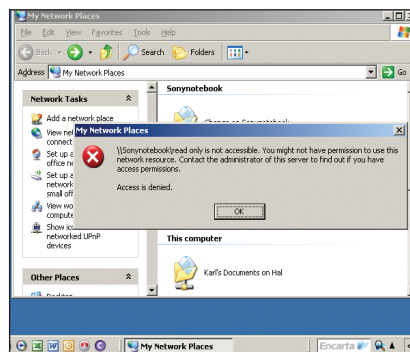
As well as letting you specify which users can share a folder, Windows XP allows you to use the NTFS's own set of permissions.

This set of permissions allows you restricted access to areas of the hard disk, in much the same way as you get with share permissions. NTFS permissions can be configured on the Security tab and take precedence over share permissions.



▲ If you assign NTFS permissions incorrectly, you won't be able to access the folder either locally or over a network

If you have specified that a user has full access to a folder on the Share tab but you haven't added that user using the Security tab, then they will not be able to access the folder in question, either locally or over a network. If you cannot connect to a folder over the network and you have checked everything else, then you should check the NTFS permissions.



▲ If you don't have the correct permissions to use a network resource then you will not be allowed to access it

File sharing on large networks

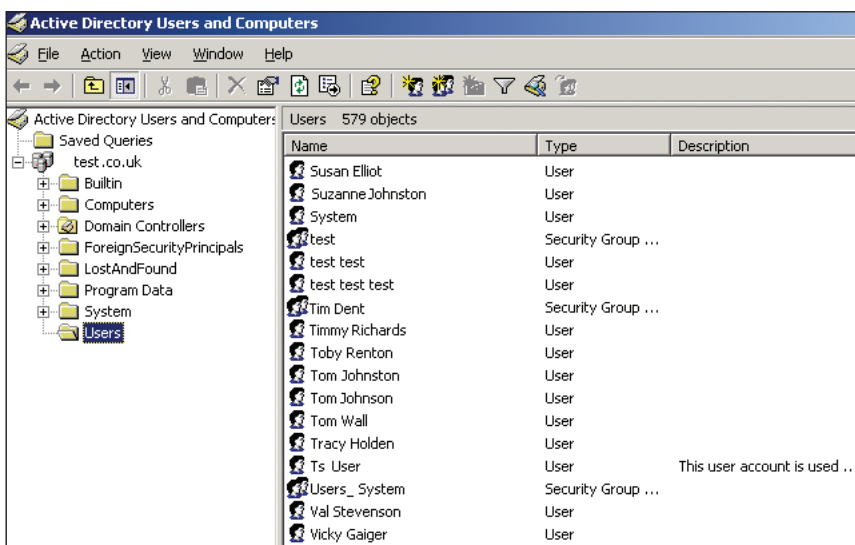
Creating lots of user accounts on many different PCs will work fine if you have only a few PCs and no more than three or four users. But if you have a larger network and lots of different users then it's a recipe for total confusion.

If you have a network of 10 PCs or more then you should consider investing in a server running an operating system such as Windows Server 2003. This will allow you to create a domain, which is an organisational group with far greater sophistication than a workgroup.

With a PC running Windows Server 2003 acting as a domain controller, you can use Active Directory, Microsoft's network administration tool. Active Directory is a database of security information that's

stored on the server and contains details of all the user accounts on your network and the privileges and restrictions associated with each of those accounts.

When you assign share and NTFS permissions on a local PC that isn't in a domain, you can assign permissions only to users and groups of users on that computer. Using Active Directory, you can assign permissions for any resource, whether it's a shared folder, a printer or the ability to install software, to any user, no matter where they are on the network. You only need one list of permissions for a shared folder and one set of account details including passwords. These details are stored on the server, so there's no need to create duplicate user accounts on every computer that needs to access a share.



▲ Use Active Directory to create a central list of users authorised to access a shared folder. This eliminates the need for duplicate accounts